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July 1972

TAPE TIPS by MEL SHLANK

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For my first monthly TAPE TIPS column I have chosen one of the biggest problems for tape traders. I am referring to cross-talk. A lot of different ideas are in people's minds as to the reasons for cross-talk, and I am sorry to say that most of them are wrong.

The biggest reason for cross-talk is leakage within the wiring of one or both tape units. The misalignment of the heads is not the culprit half as often as people think, if ever.

The leakage problem that I refer to is just that, leakage of sound from one channel (track) to the other channel (track). Sometimes this leakage occurs in the pre-amplifiers of one unit or the other and sometimes both. A good way to test to see whether the leakage problem occurs in either the wiring or pre-amplifiers is to take a tape which has material recorded on only one track in the forward direction, put it on your machine and take a single jumper-cable and connect the output of only one channel of the tape unit to your amplifier and see whether you have sound; and if so, if that sound is at a reasonably normal level or at a very low level or no sound at all. Then take the tape unit end of the jumper-cable and switch outputs of the tape unit and again check your amplifier to see whether you have sound at a reasonably normal level, low level, or absolutely no sound at all.

In the preceding test you should get either normal sound or absolutely no sound; if you get a slight sound, this means that there is some leakage somewhere in the output of the play-back unit.

Head misalignment is not the trouble due to the fact that there is a guard band (space) between the tracks. Also between each of the two (2) forward tracks not only is there a guard band, but there is one of the reverse channel tracks. The other reverse channel track is lying on the other side of the last of the forward channel tracks.

Now that I have explained this to you, I think you can see for yourself that if head misalignment were the trouble on a tape having material on all four (4) tracks, you would have some backwards sound coming out of the unit, not sound from the other forward track.

If your recorder passed the output cross-talk check with flying colors and you suspect that you may have cross-talk while recording, the test for this is a little more complicated but not much.

Simply take a tape that has been recorded on both channels in a forward direction, making sure that this tape has no cross-talk, and feed it into the suspected recorder. Take a virgin tape and transfer the material from the first tape to the second. If the newly recorded tape does not have cross-talk, you are home free and clear and you know that all your equipment is A-OK. If your newly recorded tape does have cross-talk and you have already checked the play-back deck for cross-talk and found it to be OK; then you know that the trouble is in the unit that you use for recording.

I am afraid that I cannot help you in-so-far as to what to do if you find that you have cross-talk, as the reasons will vary from machine to machine, but I believe or at least hope that the preceding will have been of help to you. From here you must go to a service shop if you have cross-talk.

That's all for this month; next month I am going to talk about noise reduction when taping.

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For this month's column I have picked noise reduction.

There are many traders who have asked questions about the new DOLBY units. I will try to be as brief as possible, and let me say that any so called noise reduction unit will not actually take noise out of any tape. The DOLBY, CONCORD, TEAC, and other units that are available simply make it possible to tape something and have the resulting tape sound as pure and clean as the program material that was fed into the tape recorder.

To help understand this, please bear in mind that normally when you make a tape, you always add some noise (referred to as tape hiss) to the program content. This is true no matter what speed you record at, although the higher the speed the less noise you add.

Something to be particularly aware of is that any tape that is recorded through the use of a noise reduction unit MUST be played back through such a unit. If it is not, the resulting sound will be quite unpleasant to the ear.

There are several units available which can actually take noise out of a tape when making copies (dubbing). These units are called Frequency Equalizers. One of the most popular of these is made by a company called METROTEC. This unit, if properly used, can result in the partial and sometimes complete removal of such objectionable sounds as hum and tape hiss.

The unit is inserted in the line between the play-back and recording decks and has five (5) slide controls which are used to increase or decrease the level of various audio frequencies. Not only does this unit really work, but it is only needed during the dubbing process and not during play-back. It is for this reason that a frequency equalizer is so great. You really do remove noises from the tape, and the removal is of the undesired noises from the tape itself is permanent and any machine can be used for play-back without special equipment. I must clarify this point somewhat, however. In order to use a frequency equalizer properly, you must make a new copy of the tape. It is this copy which will have the undesired noises removed. The undesired noises will still be on the original copy.

The unit sells for \$99.95 and it is fair-traded. If you have trouble getting one or cannot get one at a discount, I can get one for you for \$85 including postage and insurance.

If you are short of money, you can charge it on your Master Charge. Write for Details!

Incidentally, there are other frequency equalizers besides the METROTEC but as far as I know, they all cost considerably more.

That is it for this month. Next month I will talk about taping direct from your radio or tuner and how to get the best results.
....(Direct comments to 553 Howellton Rd, Orange, Ct 06477)

MORE LATE MAIL: Dr. Arthur Delaney, 12 Ridge Drive East, Flower Hill, Roslyn, NY 11576. Arthur has 300 shows...Mark Dereng, 6701 Edgebrook Ter, Chicago, Ill 60646 is looking for someone to edit out the programs on a 3600 ft reel and a 2400 foot reel, about 28 hours, for a profit...Just received ECHOES OF THE PAST and GOLDEN RADIO JOURNAL, Don Pellow, 705 E Chandler, Evansville, Ind 47713 (help from Rolly Roos, Roy Bright, Bob Proctor, Ray Stanith). Excellent reading, including special Lum and Abner issue. Many partial logs and listings of theme songs included. Both are still free but I'm sure contributions would be appreciated.

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Sept 12 This month I shall attempt to give you tips on how to tape from your radio or tuner.

As many of you know, there are some worthwhile programs being broadcast on both AM and especially FM stations.

To begin with, never buy never use a microphone for pick-up; patch cords are a must and make sure that they are in good condition (this is just good common sense and should apply to all of your taping).

If you are taping something from a radio that has no output jack, you can always, through the use of alligator clips, connect the input of your tape unit to the speaker leads of the radio. When doing this you must be careful when recording, as a change in the play-back level of the radio will change the level of the recorded sound on the tape. Set the volume on the radio at a comfortable listening level and make all further adjustments in level at the tape deck.

If your tape deck has more than one input for each channel, try experimenting between them. You may find that you will get better quality sound from one input as against another input.

In taping from AM there is not much to be said. When taping from FM, however, there is much to be considered concerning both the tuner and the antenna or antenna system.

Regarding the tuner, many people only look at the sensitivity figure which is a value that is expressed in micro-volts. The lower the number of micro-volts, the more sensitive the tuner. Unfortunately, most people overlook something called selectivity. Selectivity is the ability to receive stations that are right next to each other on the dial. This is expressed in so many db. The higher the number of db, the better. A typical figure is 40 to 60 db, but selectivity as high as 100 db is obtainable.

Unfortunately, although many tuner manufacturers print their sensitivity figures (2.0 to 3.0 is typical and 1.0 is obtainable) most manufacturers omit the selectivity figure. This, frankly, is because the selectivity of many tuners leaves much to be desired. To give you an example of what I am referring to, in my home I can receive a weak signal on a station at 101.1 and there is a very high powered local station at 101.3 with other weak stations at 101.5 and 101.9. With many tuners, only the station at 101.3 can be heard. With one of my tuners, although I can receive the station at 101.9, I still cannot get the other two (2). With my very best tuner, however, I am able to listen to and can enjoy all of the stations both in mono and stereo. As you can no doubt see from this example, the selectivity figure of a tuner is extremely important, although it is frequently omitted; and when it is omitted, you can safely assume that it is poor (low).

When taping off the air, incidentally, always make sure that the tuner is switched to mono unless the program content you are recording is in stereo. You may help to eliminate some interference this way.

There are many good tuners that one can choose from; but perhaps the best buy for the money is the AR TUNER which sells for \$210. I can get it for you for \$175 should you desire one and have trouble obtaining it.

This unit will enable you to receive just about any station that is receivable in the area, providing that you have a good antenna system.

FM Antenna Systems will be next months topic for TAPE TIPS. See you then.

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TAPE TIPS by MEL SHLANK

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Last month in this column I discussed taping directly off the air on both AM and FM. The most important thing concerning taping off the air on FM is the subject of this month's column, that is your FM antenna system.

Unfortunately, most antenna installers and salesmen of Hi-Fi equipment are under the misimpression that for local reception all one needs is either an indoor TV rabbit-ears or a simple 300 ohm Dipole made out of wire. For fringe reception (which many sadly misinformed "experts" claim to be not more than 60 to 75 miles) what is recommended is the sharing of your TV antenna.

Just to set the record straight, unless it is not possible to erect an outdoor antenna, an inside antenna should never be used for reception unless someone is only concerned about a few local mono signals. For clear stereo reception, an outside antenna is a MUST. In fact only a FM Yagi should be used. If you have stations in two (2) markedly different directions, two (2) Yagis should be used with a switch at your set. If there are desired stations in more than two (2) directions, then a good quality Yagi should be used along with a rotor. The more elements that the Yagi has, the better (they come in 3, 4, 5, 6, 8, 10, and 12 element configurations).

Stick to a name brand, don't use a mongrel such as Archer. I know from the sad experience of a neighbor how inferior the Archer brand of Yagi is. Your Yagi should be as high as possible, and if you are in an area which has much electronic interference, a 75 ohm down lead is recommended. In fact, if the new RG-6/U cable is used, there will be less loss in 100 feet of this lead-in cable than in 100 feet of 300 ohm cable; these cables have true 100 percent shielding against line pick-up. This new cable that I refer to uses a foam inner insulation, and the shield is a solid sheath of aluminum.

Should for one reason or another you need much more than 100 feet of lead-in cable, an antenna mounted pre-amplifier is recommended. There are only a few such units made. All of the tests that I have performed have indicated that all but one brand will overload if you have one or more FM stations who's transmitters are within 10 to 15 miles of you. If you have any specific questions or would like to know where to get the antennae that I recommend, feel free to write to me.

The FM antenna that I recommend the most is the Model FM-4, FM-5, and FM-12 as manufactured by the Finney Company of Bedford, Ohio. The Channel Master Stereo Probe is also a good antenna.

There are two (2) excellent FM pre-amplifiers that are available. One is the Blonder-Tongue Model CIA, and the other is manufactured by a company known as JFD and it is their Model SP 2888. The JFD will not overload, from high input (local) signals, where as the Blonder-Tongue might. If you have trouble in obtaining any of these items, drop me a line as I can get many of them for you for wholesale.

Before ending this column, I must comment on distant FM reception. With the good quality antennae and low loss lead-in cables that are available today, combined with a good quality tuner; good stereo reception can probably be gotten at a distance of up to either 50 to 100 miles and mono reception from between 60 to 120 miles in an average location depending on whether the stations are low powered (3000 watts or less) or high powered (over 3000 watts). In fact with many of today's FM stations operating with 50,000 watts, good dependable stereo reception is not unusual for distances up to 125 or even 150 miles.

I sincerely hope that this month's column has been of help to many of you. As you know, many of the old shows are being run today on FM stations and some of the taping I have heard is terrible, usually due to poor antenna systems. If you have any questions, Please Write.